How to make and use argument maps

Avoid endless discussions

Target audience: everyone interested,
no special knowledge necessary

Reading time: about 20-25 minutes

Page layout: allows easy reading
without scrolling,
even on
very small screens

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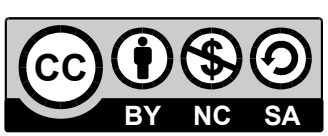

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Before we begin, you may want to know this:

This text is a (slightly edited) excerpt from the book
'Decision making, politics and quality of life' by Edgar Hartel.

Most examples, and all persons or organizations
appearing in them, are invented.

Contents

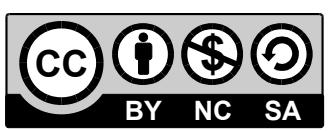
of the

PDF e-book

Decision Making, Politics and Quality of Life

by

Edgar Hartel



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How to make and use argument maps

Avoid endless discussions

Estimated reading time: 20-25 minutes

Discussions have an important role in our lives.

They influence our thinking, our social relations, our decision making and our actions.

Public discussions (or debates) often precede and influence political decision making.

Which again affects us.

Therefore it is in our best interest that discussions give useful results. Instead of manipulating us, or simply wasting our time.

This text is mostly about diagrams that can help us to have better (and shorter) discussions.

But before making any diagrams we need to find out what to expect from a 'better' discussion.

After that, we need to take a quick look at which reality these diagrams reflect.

Note:

The diagram types in this text come in addition to the (multi-party) decision matrices introduced in appendix F of the original book.

Rather use those matrices if the discussion is about choosing between decision options.

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In an ideal discussion,
the participants:

1. talk/write about a precisely defined topic, and nothing else

2. agree on the purpose of the discussion

3. treat each other with respect

4. express themselves clearly

5. consider each other's viewpoints and arguments with open minds

6. come to their conclusions after they have heard and evaluated all arguments

   and

7. do all this without wasting time.

In real life discussions,
the participants often do
exactly the opposite.

Sometimes in all 7 aspects.

Results, if any, are accordingly.

Unfortunately, because this
happens so often, it is widely
considered as normal and
acceptable behaviour.

Real life 'discussions' are often
rather debates.

In a debate, the participants
try to convince each other
(or at least their audience)
of their opposing positions.

Arguments are used
to attack or defend positions,
rather than to arrive at
well-founded conclusions.

Back to the discussions.

There is no practical way to ensure that discussion participants behave 'ideally' as outlined 2 pages before.

But there are at least 3 approaches that can help.

1. education and training, especially when started at early age

2. discussion rules

3. visualization techniques

When combined, these approaches bring ideal discussions within reach.

But already one of them alone can make a discussion better.

Approach 1 requires long-term thinking and much preparation.

Approaches 1 and 2 require either authority over (potential) participants, or their full cooperation.

Approach 3 does neither.

Whether you are a participant or an audience member, you can always listen to what is said and make a diagram of it.

More precisely, you can:

- follow the discussion

- extract claims, arguments and evaluations from it

- convert that information into visual form (a diagram)

- make the diagram(s) available to participants and audience

But how can a diagram help to make a discussion better?

A good discussion support diagram does not reproduce verbal smoke screens, other rhetorical tricks, insults and off-topic statements.

Hence it can give better overview, clarity and focus.

And once the participants see that an argument has been registered in a diagram, they may refrain from repeating it.

The 'ideal discussion' aspects 1, 3, 4, maybe 6, and definitely 7 could benefit from all this.

A lot more could be said about discussions. But that is beyond the scope of this text.

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No two persons have exactly the same perception of reality.

Something I consider as fact, you might consider as someone's opinion. Something you consider as valid conclusion, I might consider far-fetched. And so on.

This can easily lead to misunderstandings, confusion and/or conflicts.

To avoid these, the diagram maker (ideally: all discussion participants) must understand the difference between observations and interpretations.

Your observations are what your five senses tell your mind.

Your interpretations are what your mind makes of that.

Observations vs. interpretations (examples)

The man | smiled | after | he boarded the train.

The man | was happy | after | he boarded the train.

The man | was happy | because he didn't have to wait for the next train.

The man | smiled | wickedly | after | he boarded the train.

These satellite photos | show troops leaving their usual positions.

These satellite photos | prove that an attack is imminent.

The green boxes contain observations (source: the eyes).

Yellow boxes contain interpretations (source: the mind).

Observations are easier to agree on than interpretations, and generally provide more reliable information.

Observations vs. interpretations (examples)

The man | smiled | after | he boarded the train.

The man | was happy | after | he boarded the train.

The man | was happy | because he didn't have to wait for the next train.

The man | smiled | wickedly | after | he boarded the train.

These satellite photos | show troops leaving their usual positions.

These satellite photos | prove that an attack is imminent.

Note that
100% pure observations
can be hard to obtain.

Quite often there are
traces of interpretation
blended with observations.

Just think about the words
'smiled' and 'usual'
from the examples.

What bearing does all this have on the making of argument maps (and similar diagrams)?

1.
Because the diagram maker needs to summarize/rephrase arguments presented by others, such diagrams cannot be 'observation only'.

2.
However, if the diagram maker follows a suitable code of conduct, the diagram will convey a neutral view.

3.
If not, such diagrams
could be abused for
(public) opinion manipulation.

4.
Therefore it must always
be clear to the audience
who made the diagram,
and which (if any) code of conduct
the diagram maker adhered to.

5.
These diagrams will never be
perfectly true in a scientific or
philosophical sense.

Yet they can be very helpful
in practice.

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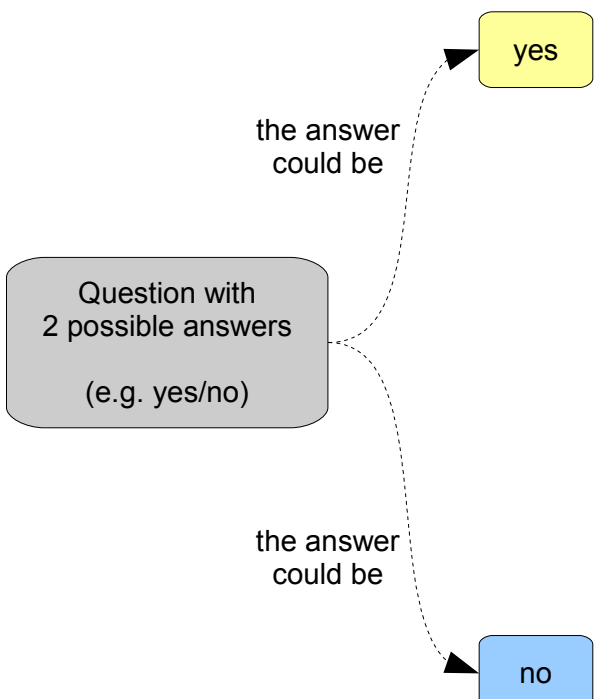
Argument maps can have various layouts. The ones in this text are optimized for easy access.

Most people will understand them without extra explanations.

This is important, because difficult to read diagrams often end up not being read, or not being understood. In both cases they become useless.

Please note that the next pages do not explain how to read an argument map, but how to make one.

Argument map
(basic structure)



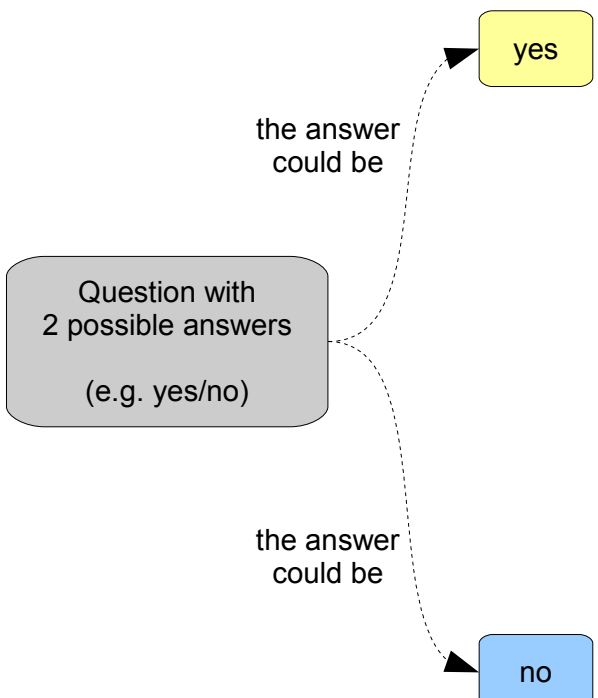
The starting point
for this type of argument map
is the discussed question.

Best suited are questions
with 2 possible answers.

If the discussion has already
taken place, but without a clearly
expressed topic question, this
question must be 'constructed'
afterwards.

Fig. G.2a : argument map (basic structure)

Argument map (basic structure)



It is very important that the question is:

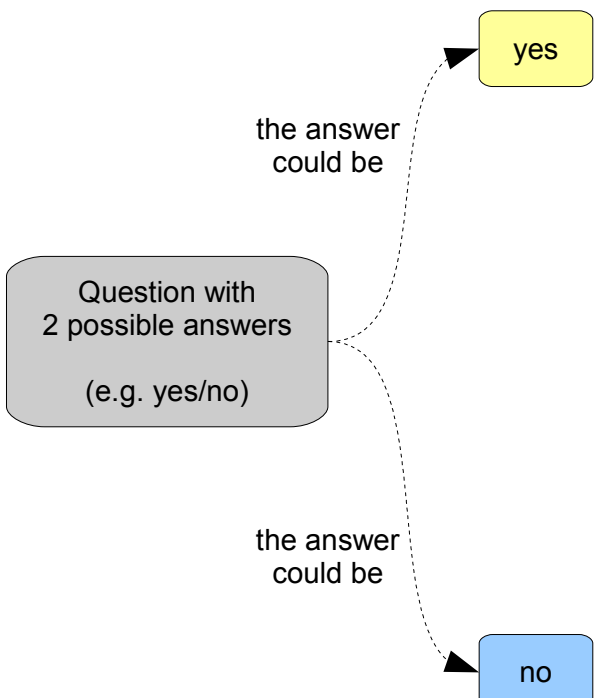
1. precisely phrased
(must be answerable, without the need for lofty assumptions)

2. neutrally phrased
(must not indicate a preferred answer)

3. immediately understandable
for the target audience

Fig. G.2b : argument map (basic structure)

Argument map (basic structure)



Bad examples:

Are young people lazy?

Should private investors finally get a chance to run our water supply infrastructure more efficiently?

Good example:

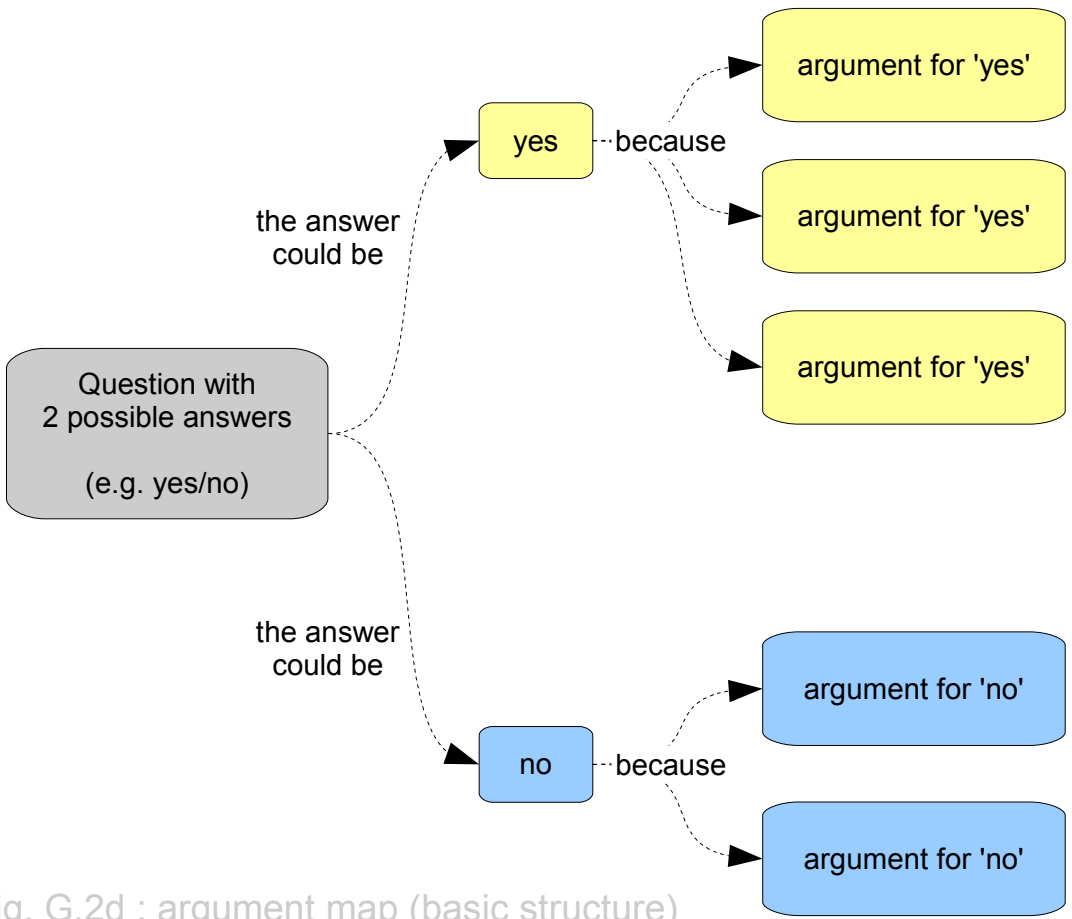
Should Abc City sell its water supply infrastructure to private investors?

Fig. G.2c : argument map (basic structure)

Argument map (basic structure)

main arguments

1st order arguments



Next, arguments directly supporting an answer are listed.

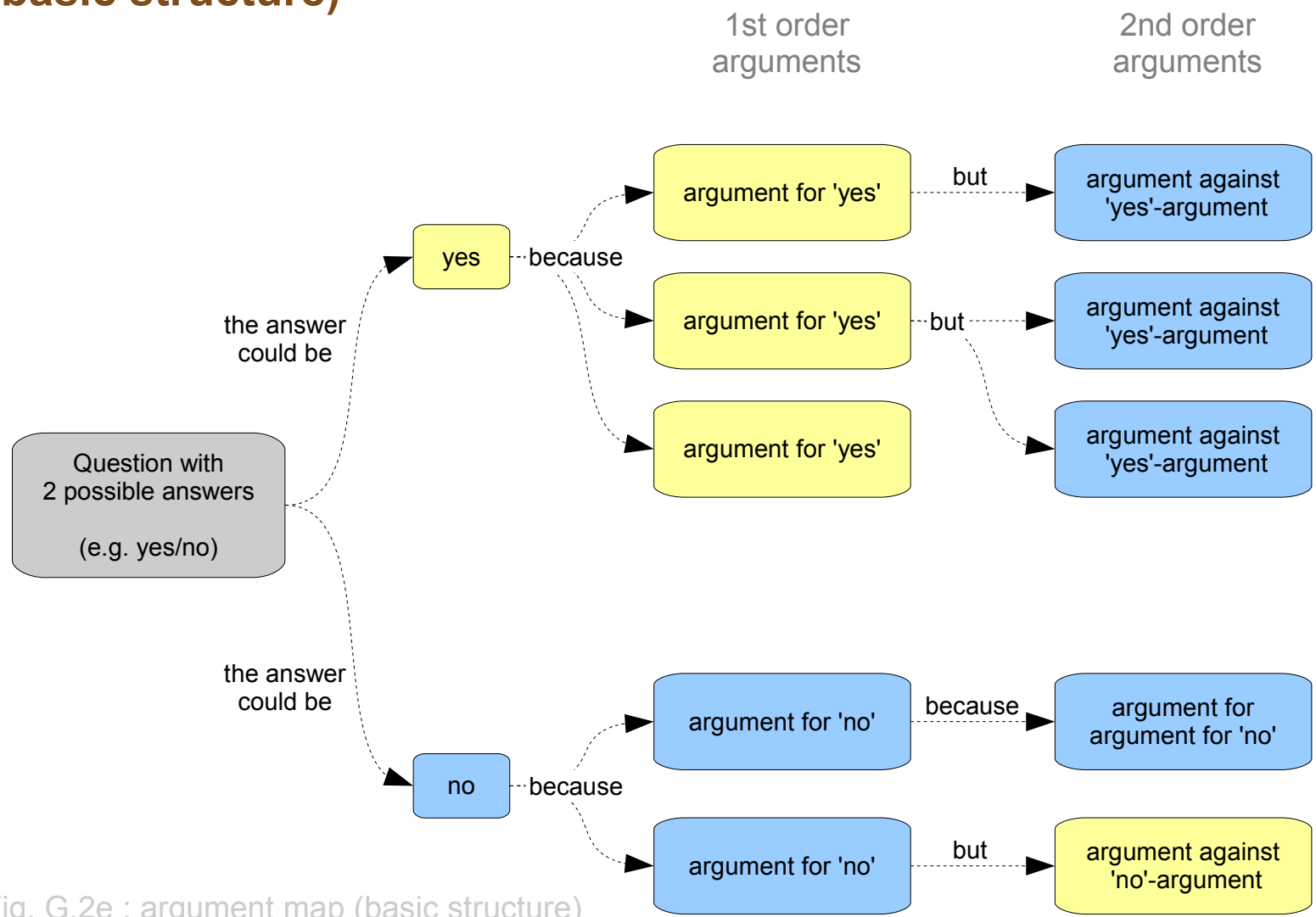
They are the main arguments.

All arguments are colour-coded according to the answer they support.

Note that these colours must not indicate any preference (as e.g. red or green would).

Fig. G.2d : argument map (basic structure)

Argument map (basic structure)



Main arguments are often rebutted (contra-dicted) or supported by sub-arguments

(arguments not directly referring to an answer).

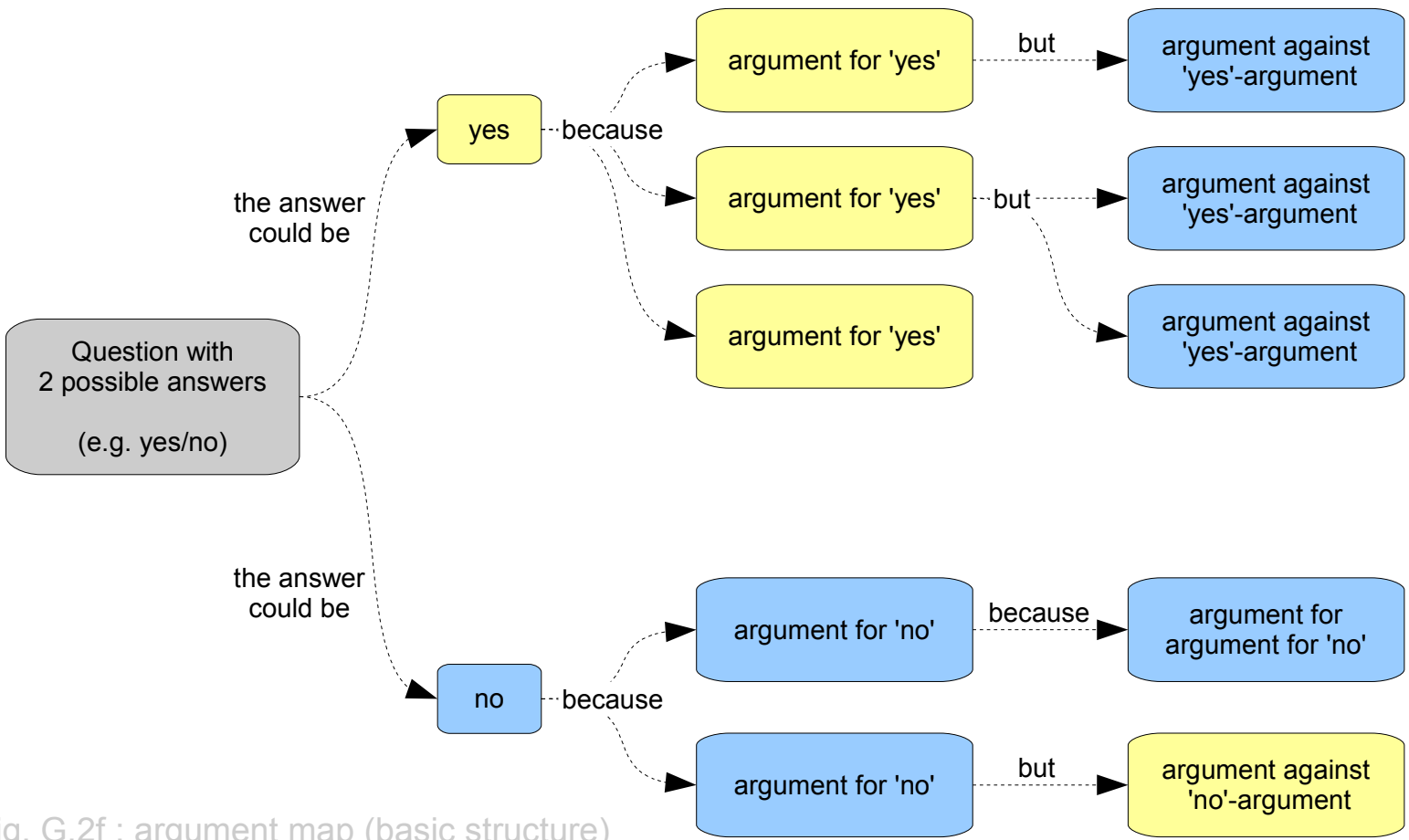
Argument map (basic structure)

main arguments

sub-arguments

1st order arguments

2nd order arguments



3rd order arguments are also often present,

4th and 5th order arguments sometimes.

Beyond that, the discussion almost certainly has gone astray.

Fig. G.2f : argument map (basic structure)

Argument map (basic structure)

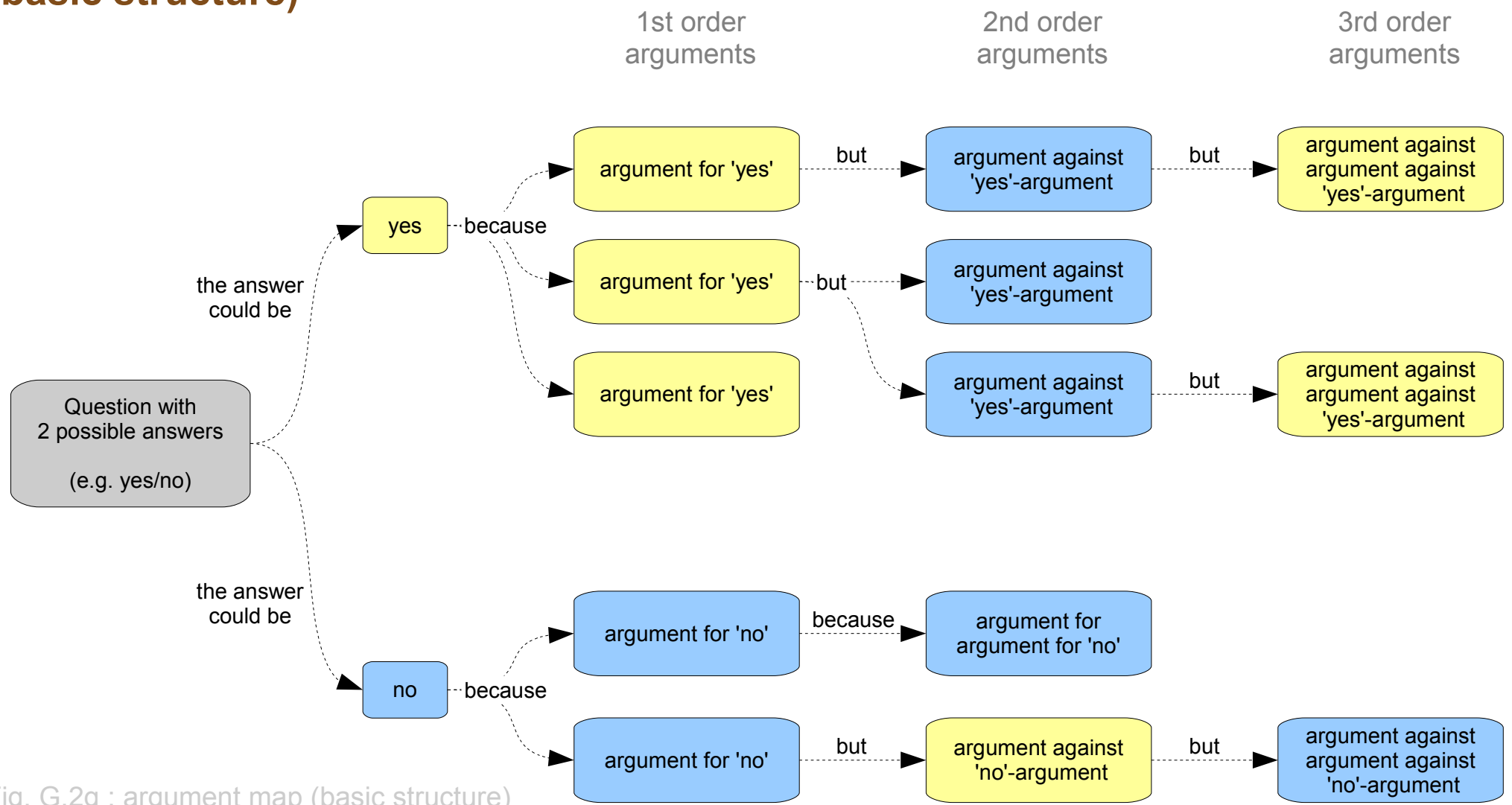


Fig. G.2g : argument map (basic structure)

Argument map (example 1)

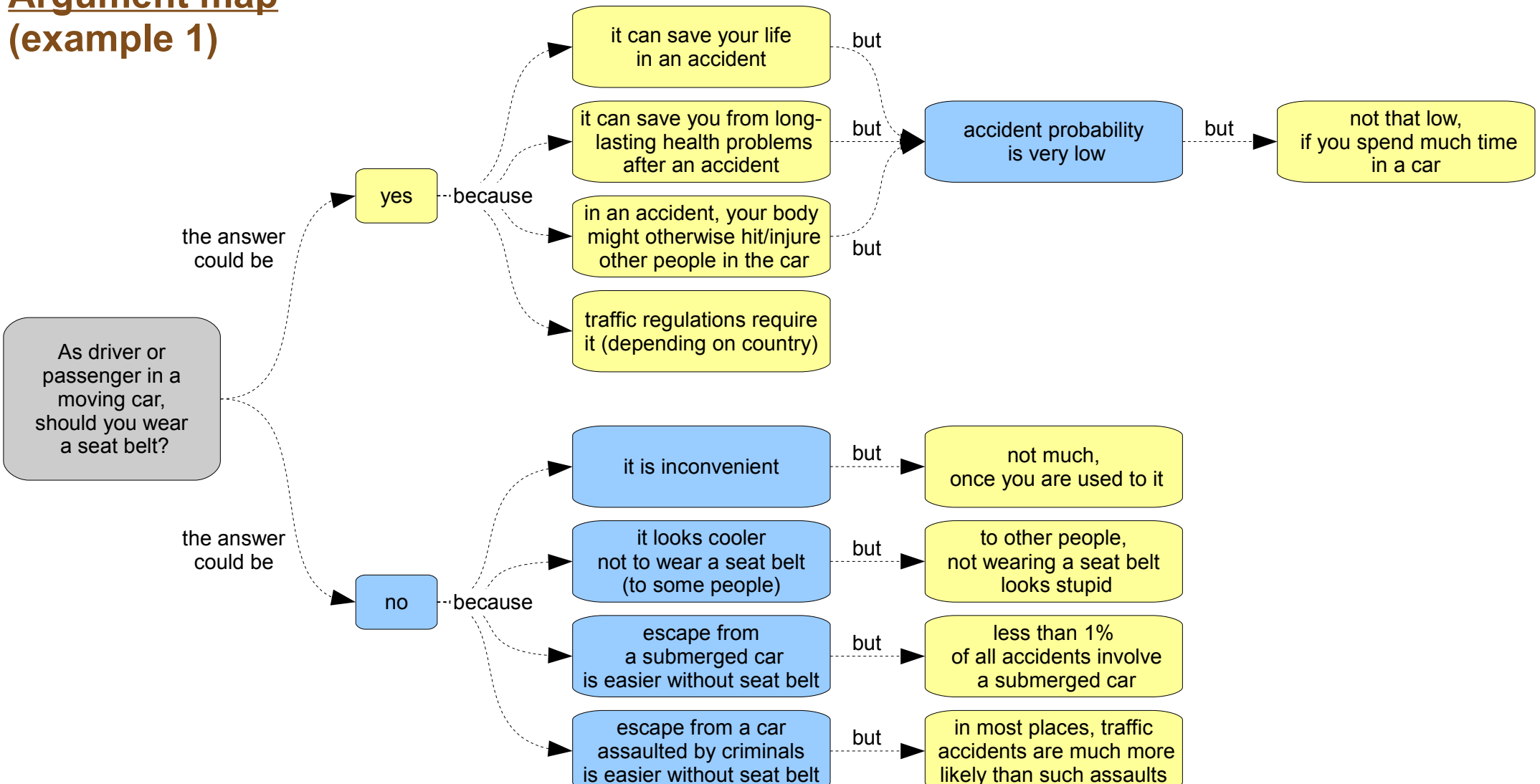


Fig. G.3 : argument map (example 1)

Argument map (example 2)

Fig. G.4a : argument map (example 2)

Argument map (example 2)

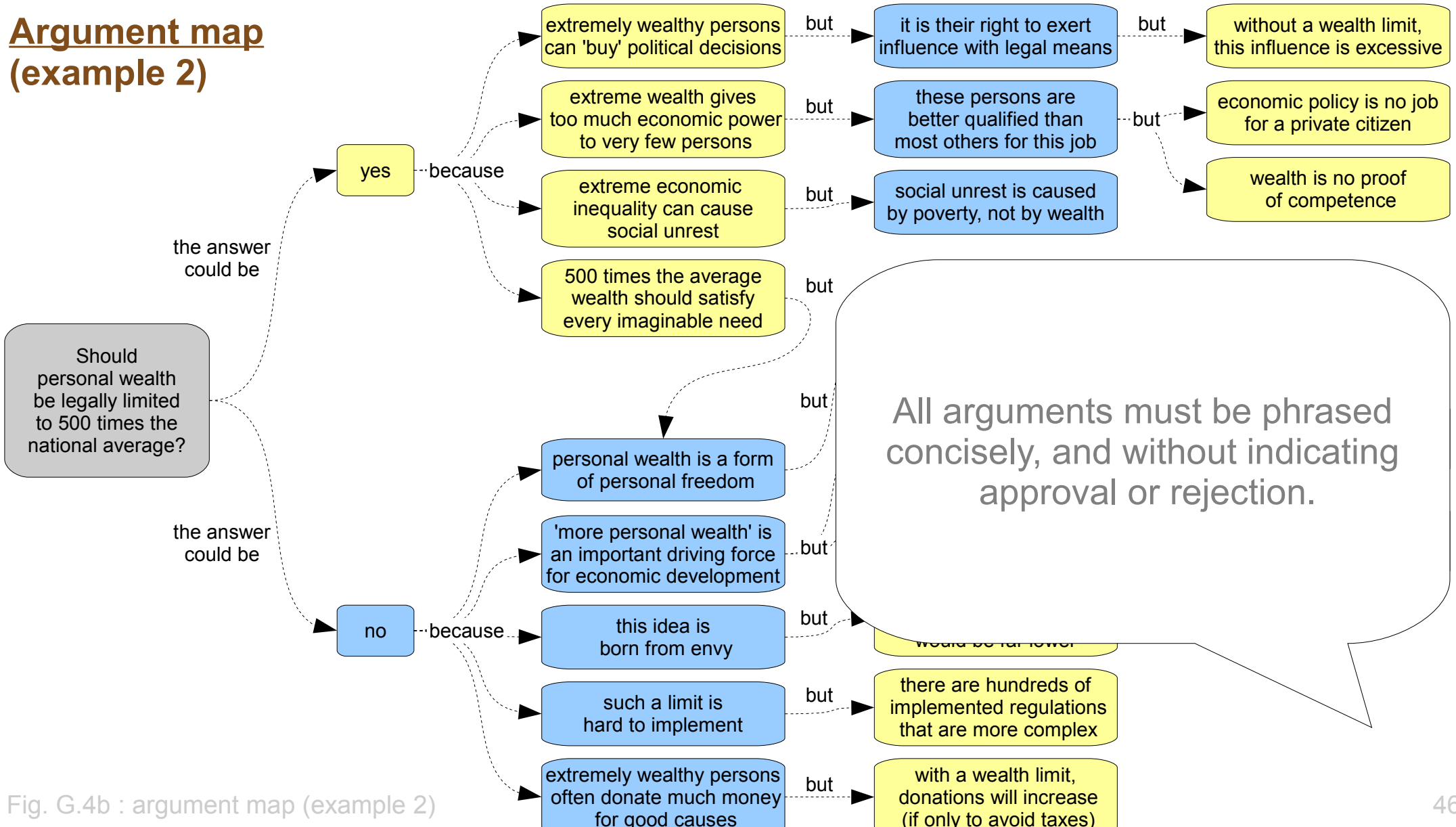


Fig. G.4b : argument map (example 2)

You can clearly see the lines of arguments in either example.

With an argument map,
you can understand a discussion
in 2-5 minutes.

Without one, you probably would have to listen or read for hours.

And you might even end up with confusion rather than understanding.

Note that you also can use argument maps for 'discussions with yourself'. In that case, you could effectively clear your head by making one.

(It takes about 30-90 minutes.)

Argument map (example 2)

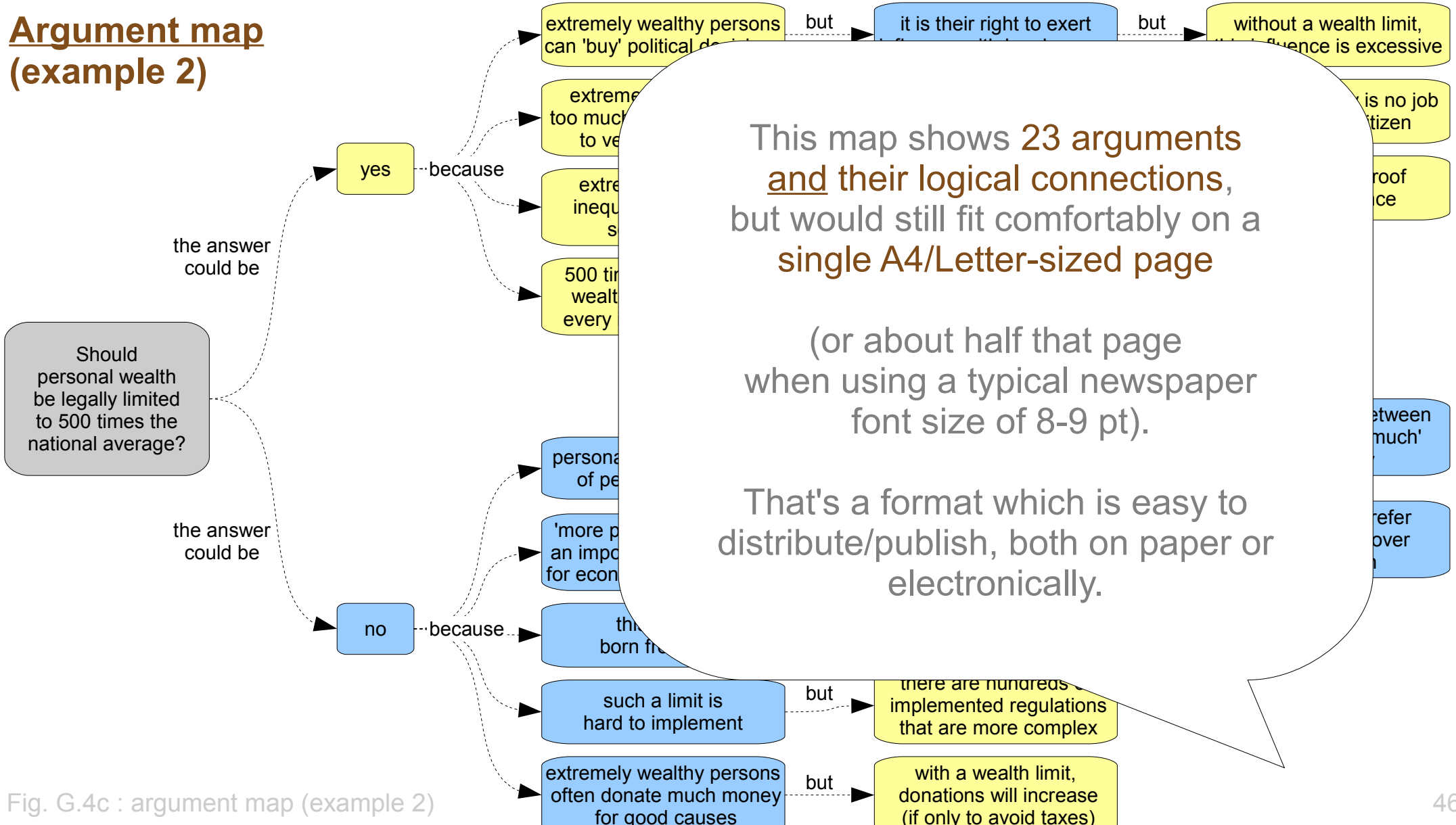


Fig. G.4c : argument map (example 2)

After reading an argument map, you will have a first impression of which answer you find better supported.

Depending on the situation, and on how clear your impression is, you must decide whether closer evaluation is needed.

Argument evaluation is subject of the next pages.

Alternatively you could extract the criteria used in arguments, and put them in a decision matrix (where the possible answers become options).

Criteria from the example 1 map:
- accident survival chances
- health status after accident
- convenience
- coolness of appearance
(...)

Options from the example 1 map:
- wear a seat belt
- don't wear a seat belt

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The result of an argument evaluation depends not just on the argument, but also on the evaluating person.

That's because different persons have different reality perceptions and value systems (we find different things important).

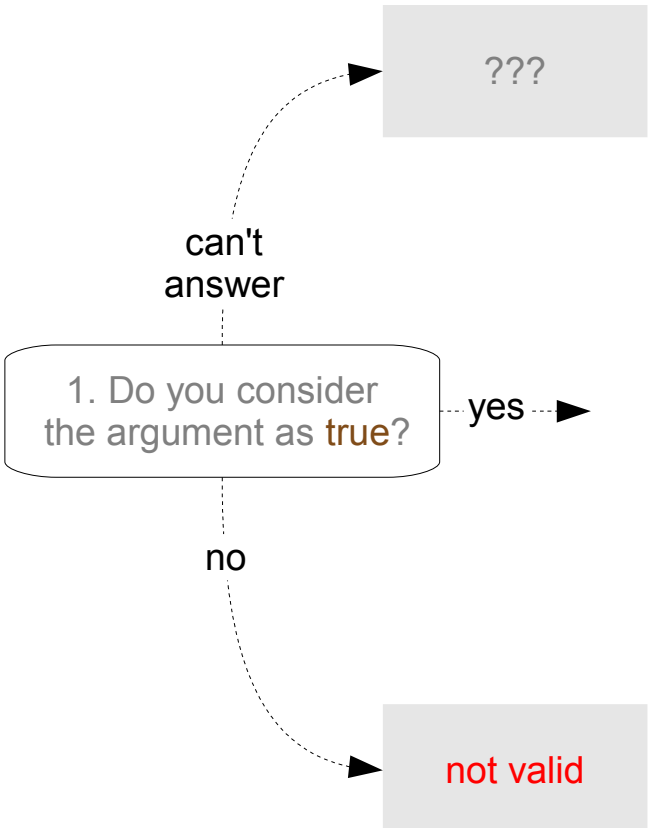
Other persons therefore are not necessarily mistaken or stupid just because they arrive at different results.

If you want to criticize a 'wrong' evaluation result, you should make it clear whether you disagree with the underlying value system, or with the evaluation method used.

Now let's have a look
at one of these methods.

A simple and efficient way
of evaluating an argument
is to ask and answer yourself
three questions.

Argument evaluation (flowchart)



A summarized argument takes usually the form of a statement.

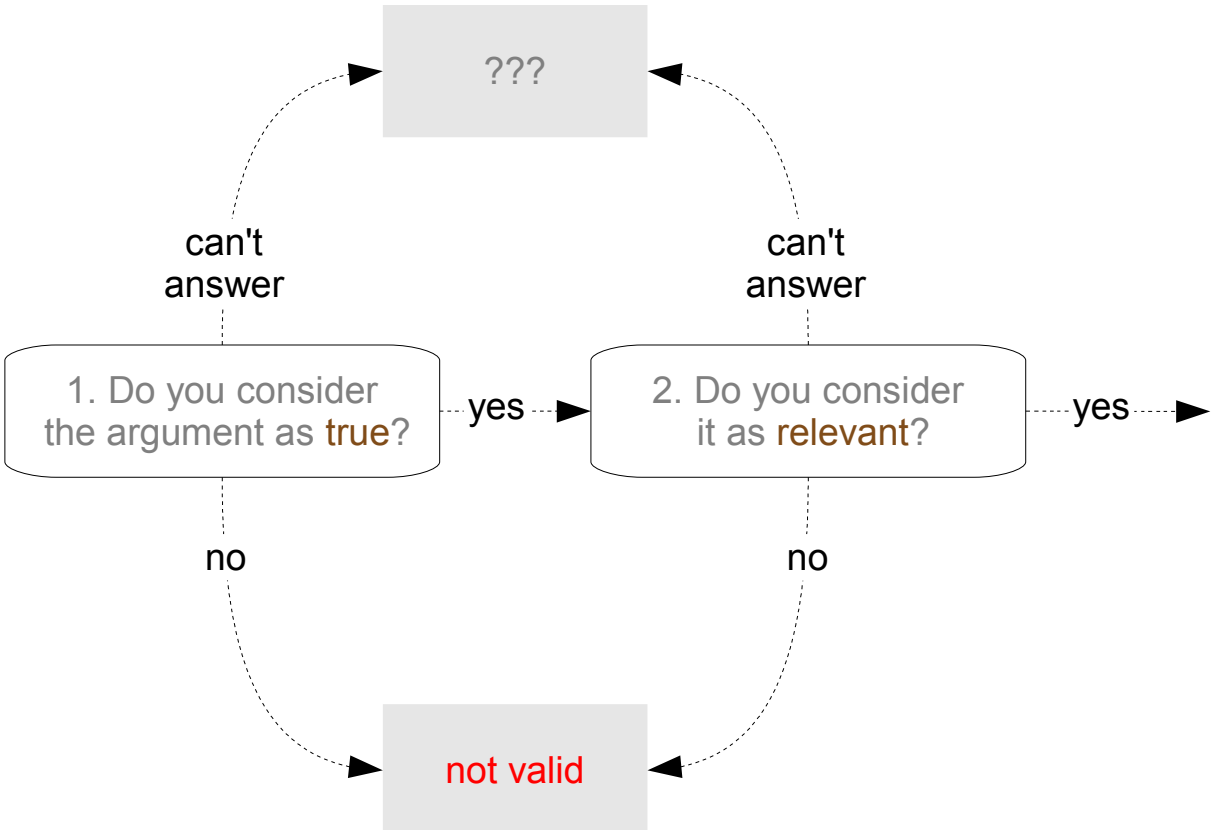
If you consider it as true, perhaps giving it the benefit of doubt, proceed to the 2. question (next page).

Otherwise the evaluation is completed.

Each gray box shows a possible evaluation result.

Fig. G.5a: argument evaluation flowchart

Argument evaluation (flowchart)



If you consider the argument as relevant (having a bearing on the topic), proceed to the 3. question.

Again you may give it the benefit of doubt.

Otherwise the evaluation is completed.

Fig. G.5b: argument evaluation flowchart

Argument evaluation (flowchart)

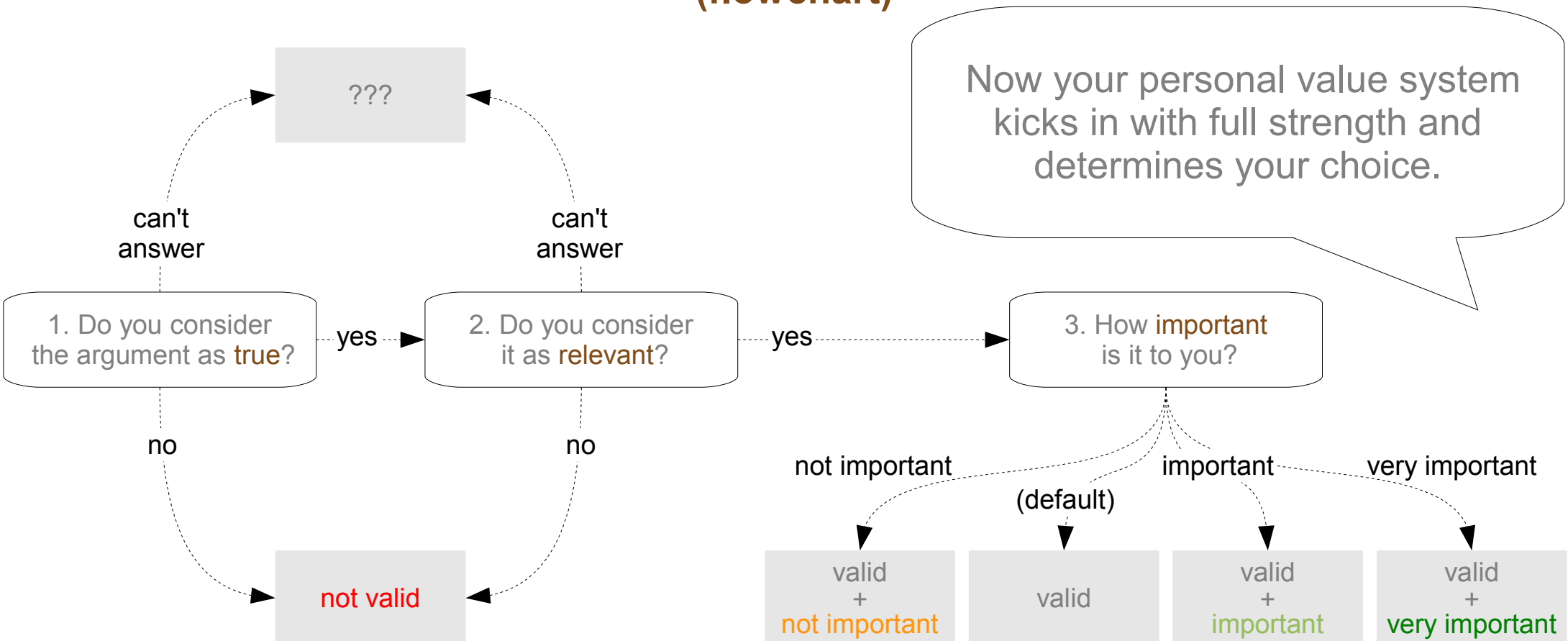


Fig. G.5c: argument evaluation flowchart

Argument evaluation (flowchart)

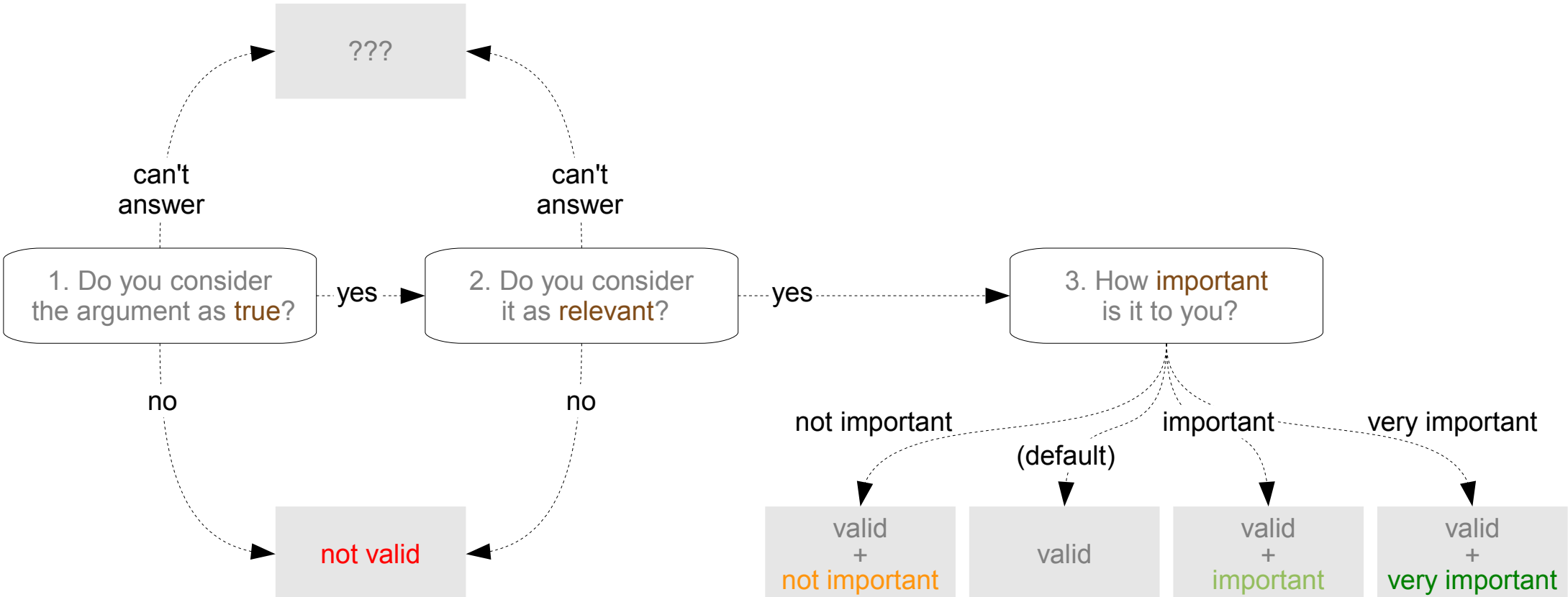


Fig. G.5d: argument evaluation flowchart

Explicit evaluation examples

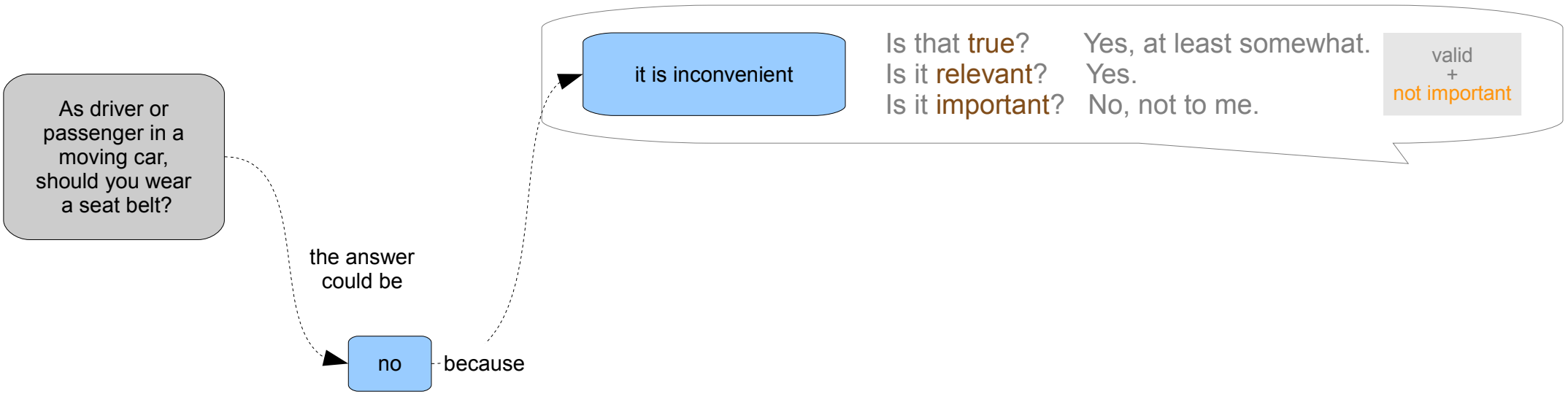


Fig. G.6a : explicit evaluation examples

Explicit evaluation examples

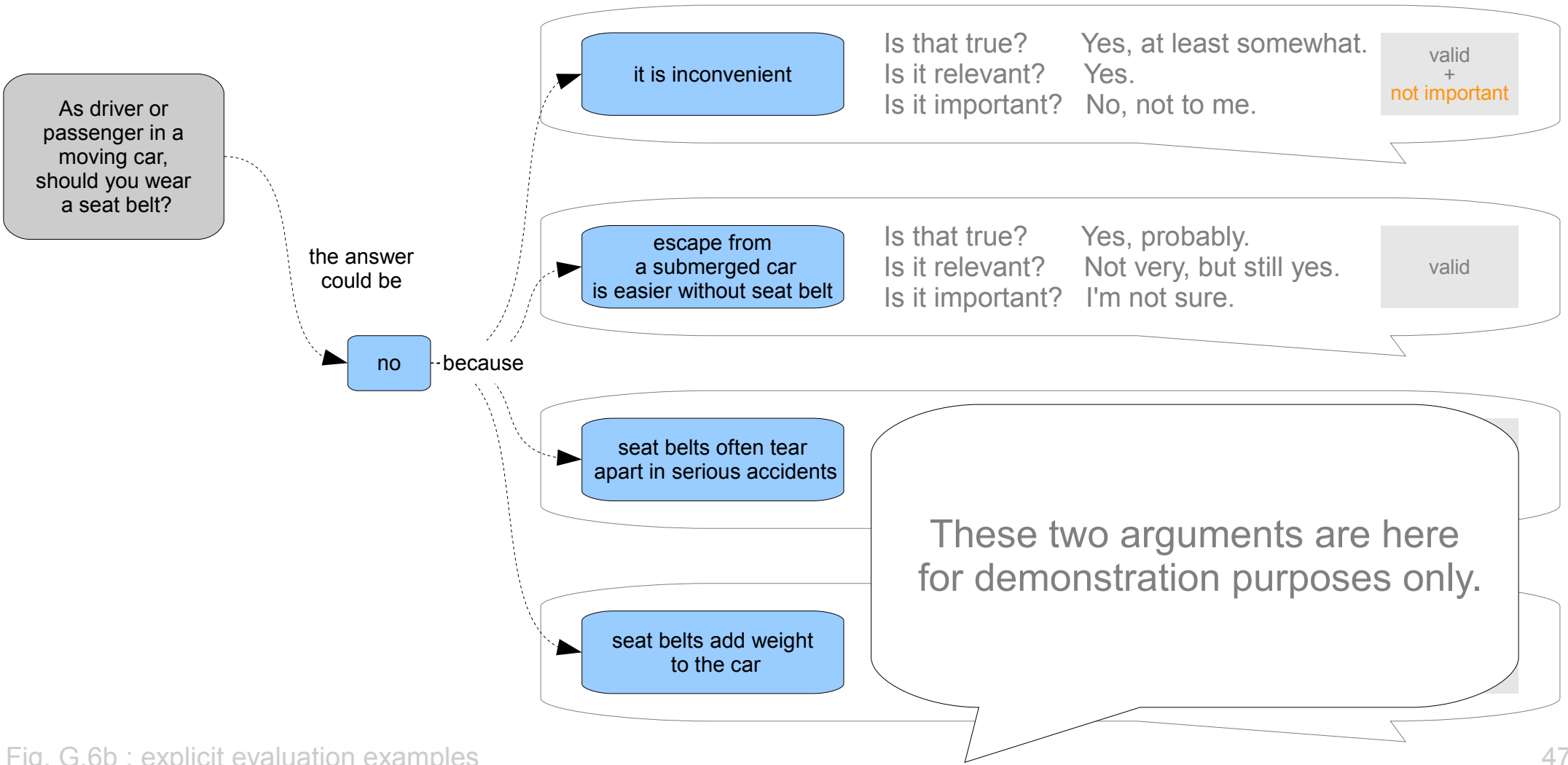


Fig. G.6b : explicit evaluation examples

Explicit evaluation examples

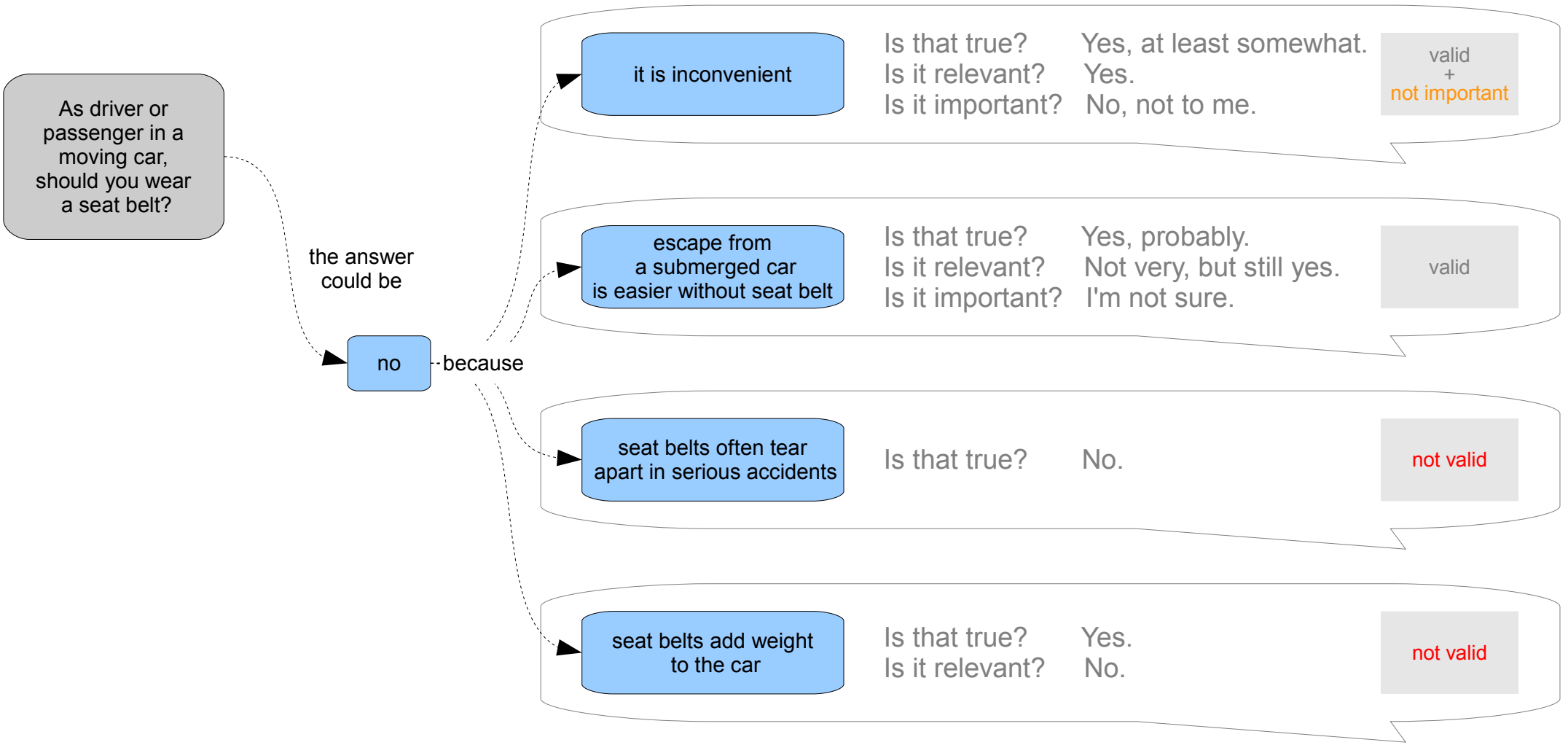


Fig. G.6c : explicit evaluation examples

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We know about
argument maps and about
argument evaluation.

Let's see how we can
bring them together
in a diagram.

Our new diagram starts out as a copy of the original argument map, but without the sub-arguments.

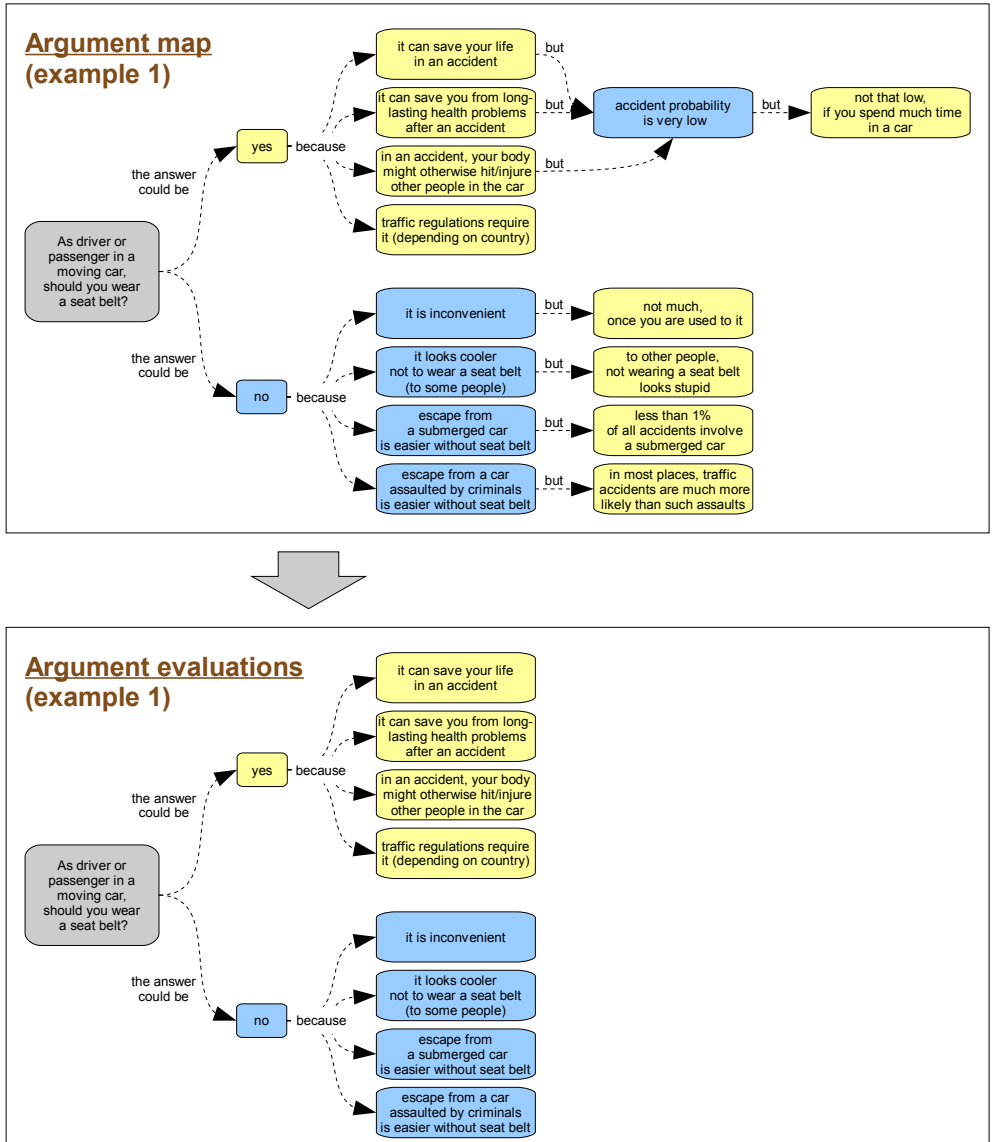


Fig. G.7a : argument evaluations diagram

Now there is room next to the main arguments. That's where we put our evaluation results.

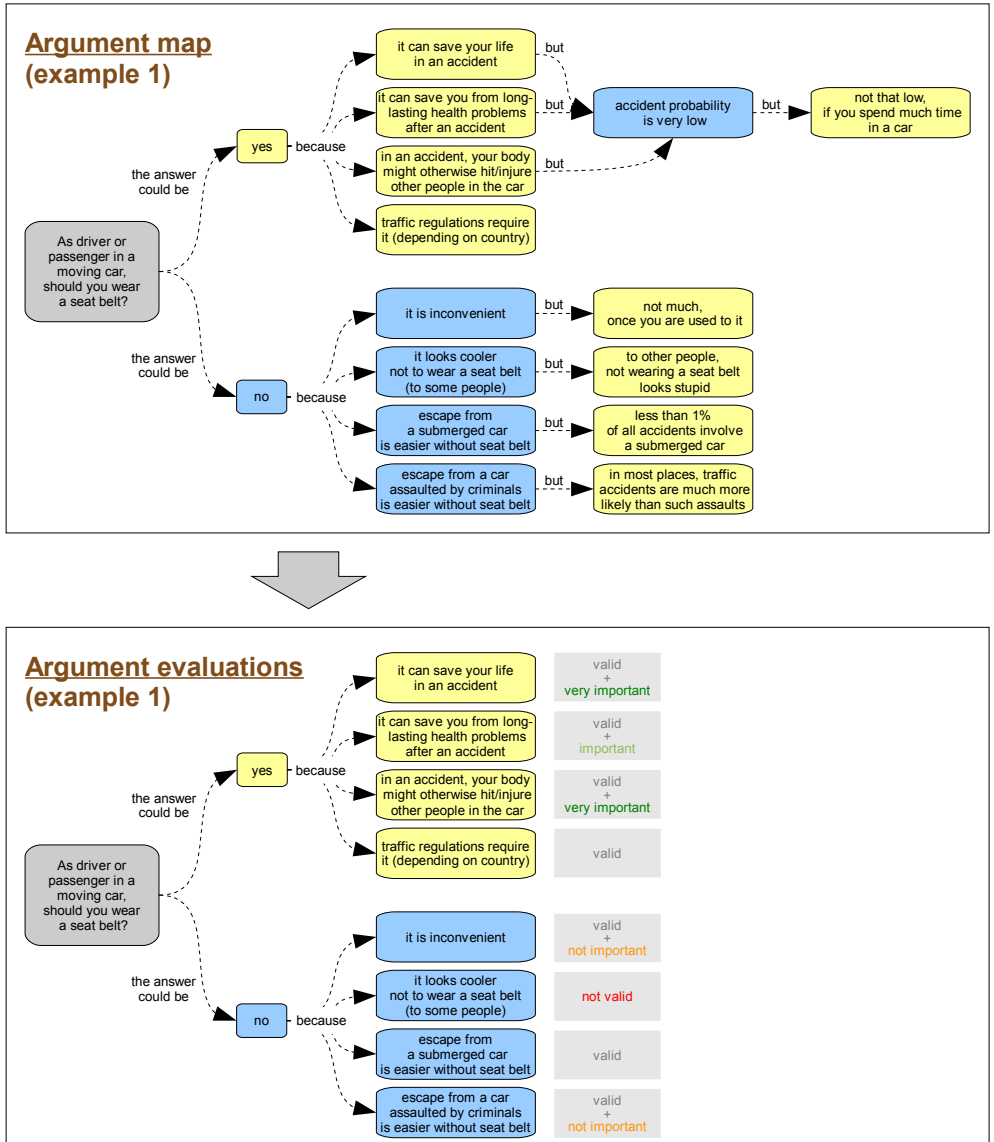


Fig. G.7b : argument evaluations diagram

Of course we must consider all connected sub-arguments when evaluating a main argument.

But usually we don't need to include individual sub-argument evaluations in the diagram.

This way we get a much simpler diagram than otherwise.

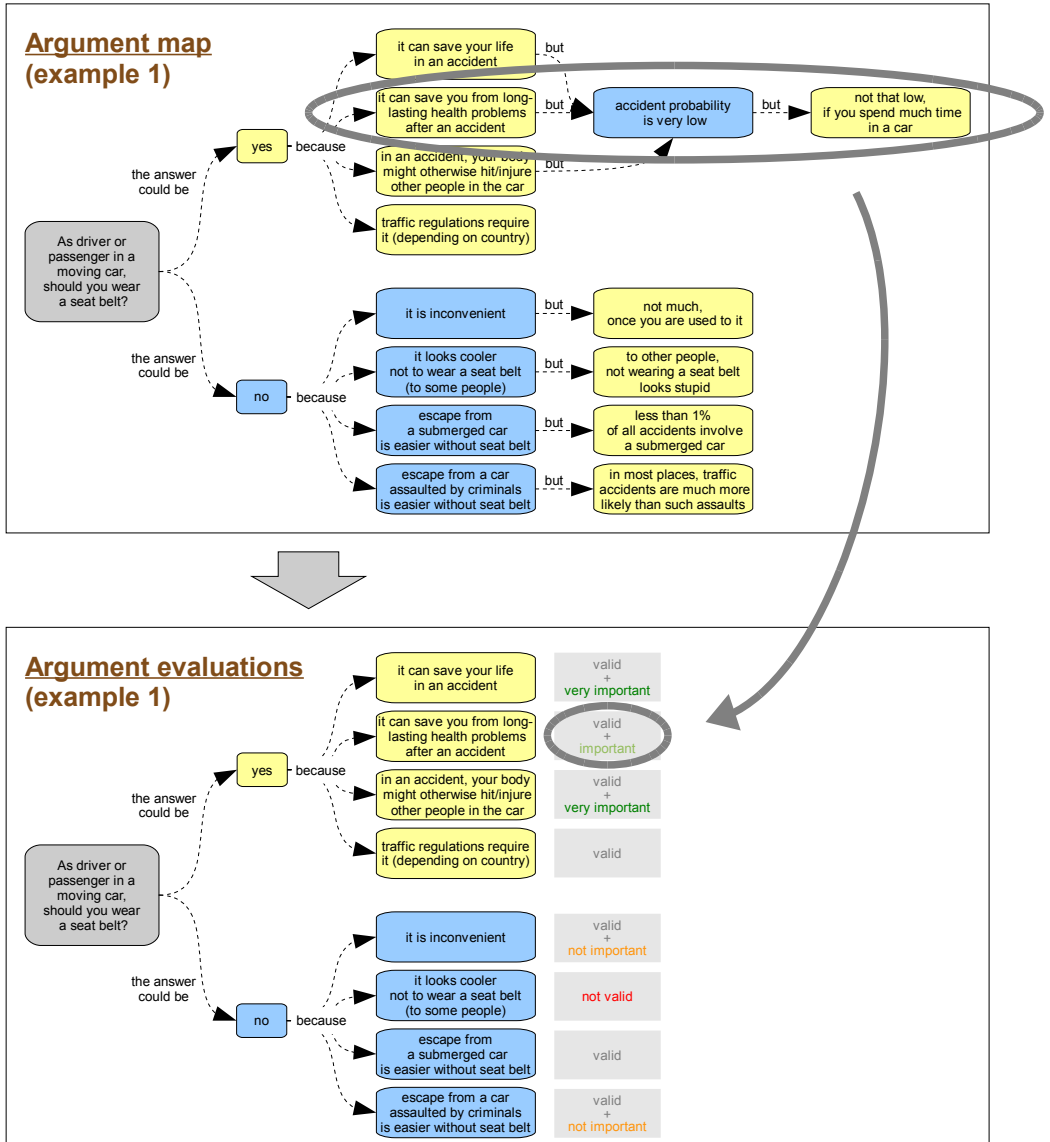
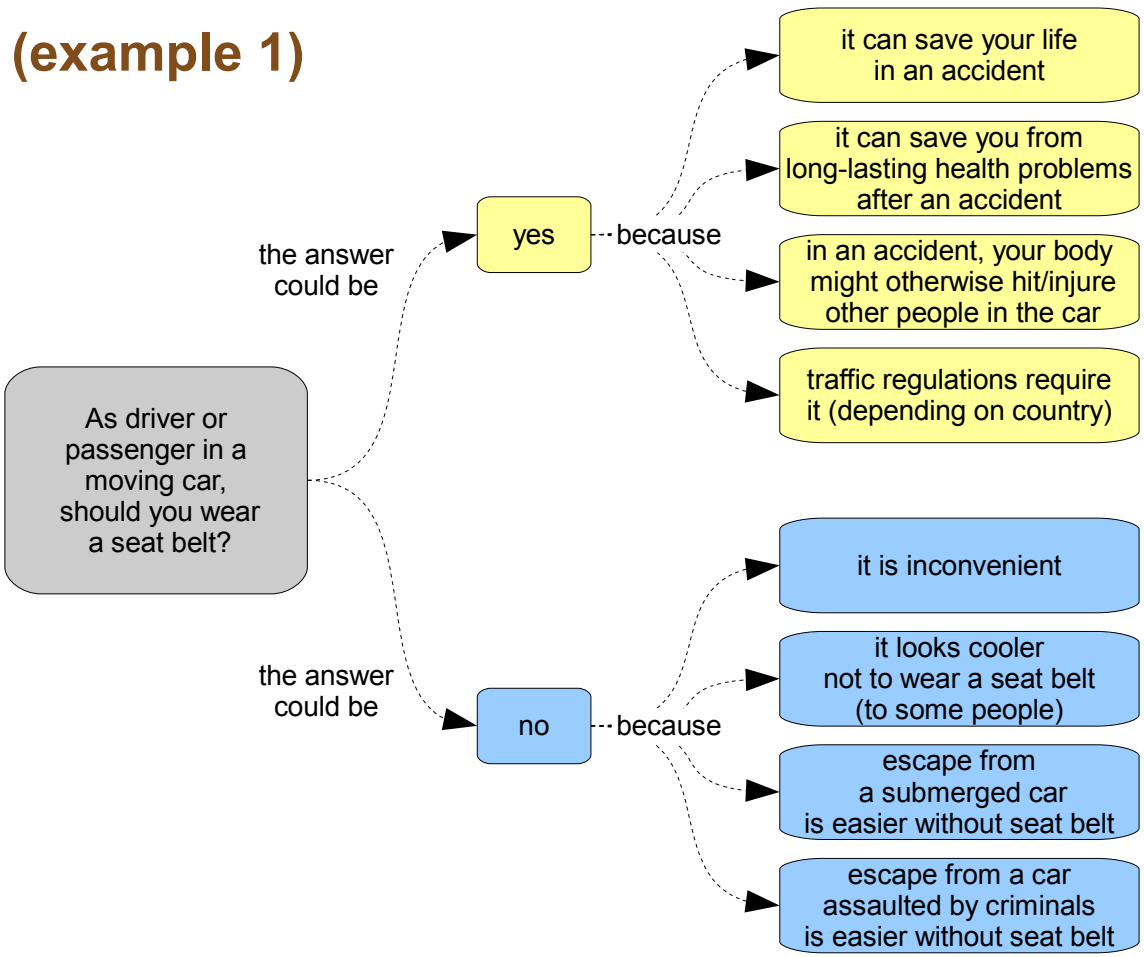


Fig. G.7c : argument evaluations diagram

Multi-party argument evaluation

(example 1)



Argument evaluations, by party

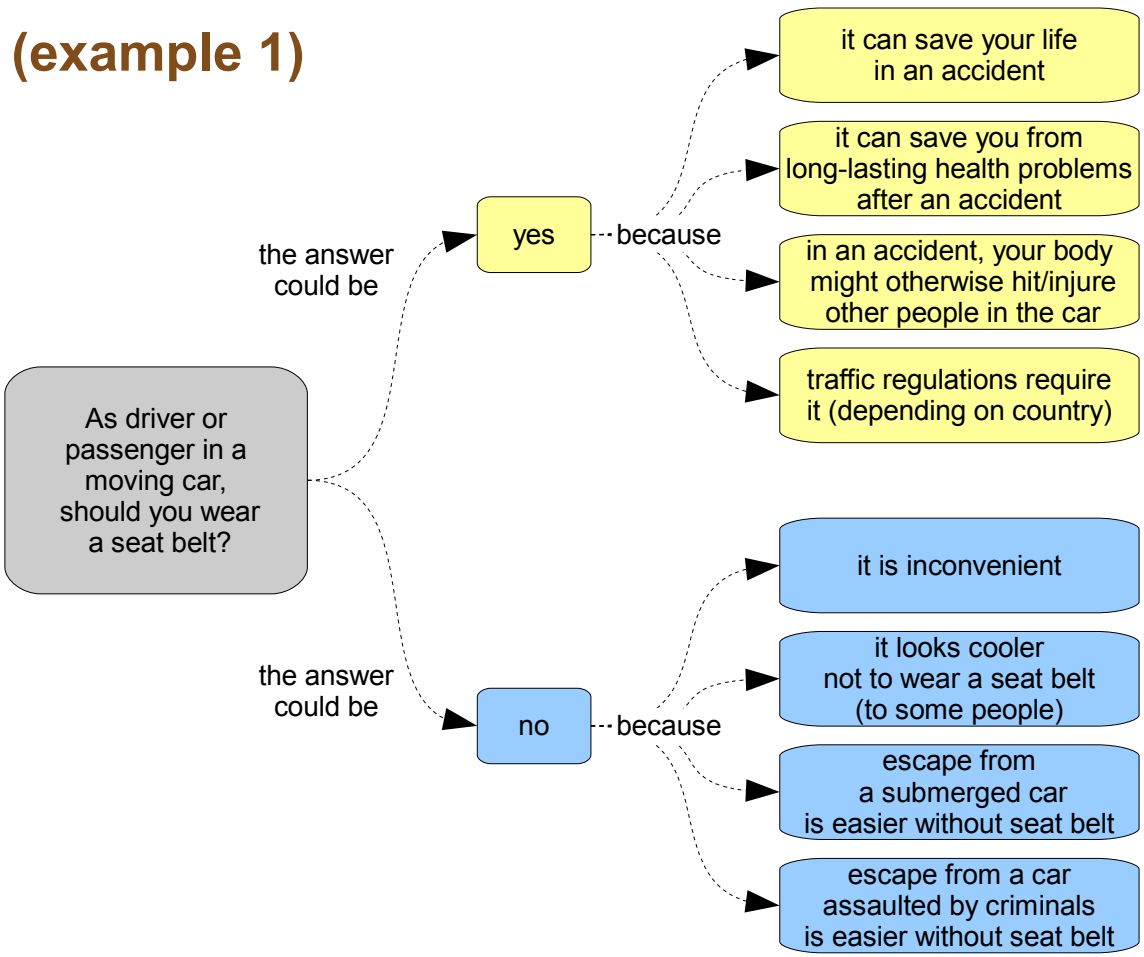
Alice	Bob
valid + very important	valid
valid + very important	valid + important
valid + very important	valid
valid	valid + not important
valid + not important	valid + important
not valid	valid + very important
valid + not important	valid
valid + not important	valid + important
conclusion: yes	conclusion: no

And there is room for more than one view.

Fig. G.8a : multi-party argument evaluation

Multi-party argument evaluation

(example 1)



Argument evaluations, by party

Alice	Bob
valid + very important	valid
valid + very important	valid + important
valid + very important	valid
valid	valid + not important
valid + not important	valid + important
not valid	valid + very important
valid + not important	valid
valid + not important	valid + important
conclusion: yes	conclusion: no

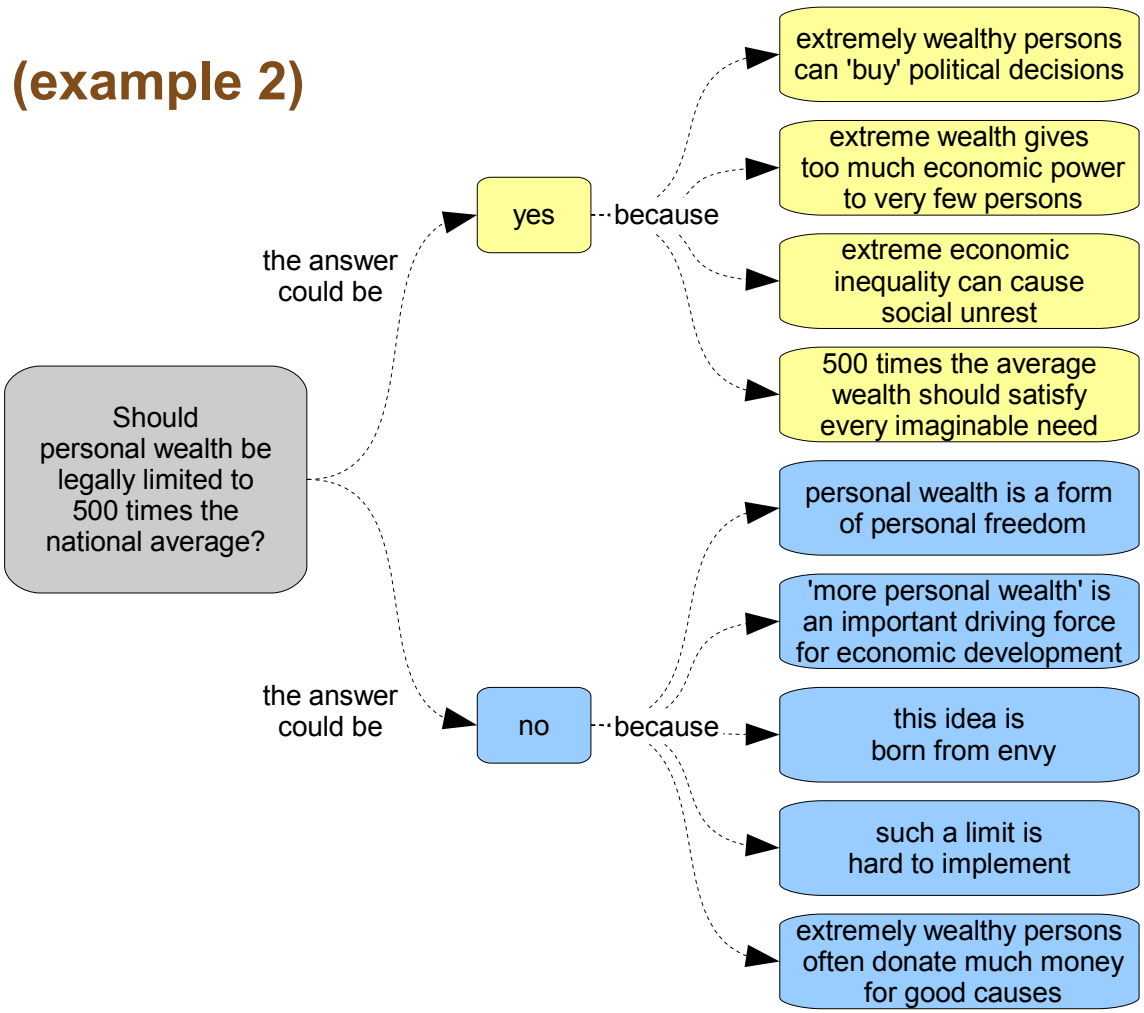
For Alice and Bob, this diagram is both summary and endpoint of their discussion.

Without it, they could easily have an 'endless' discussion.

Fig. G.8b : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party

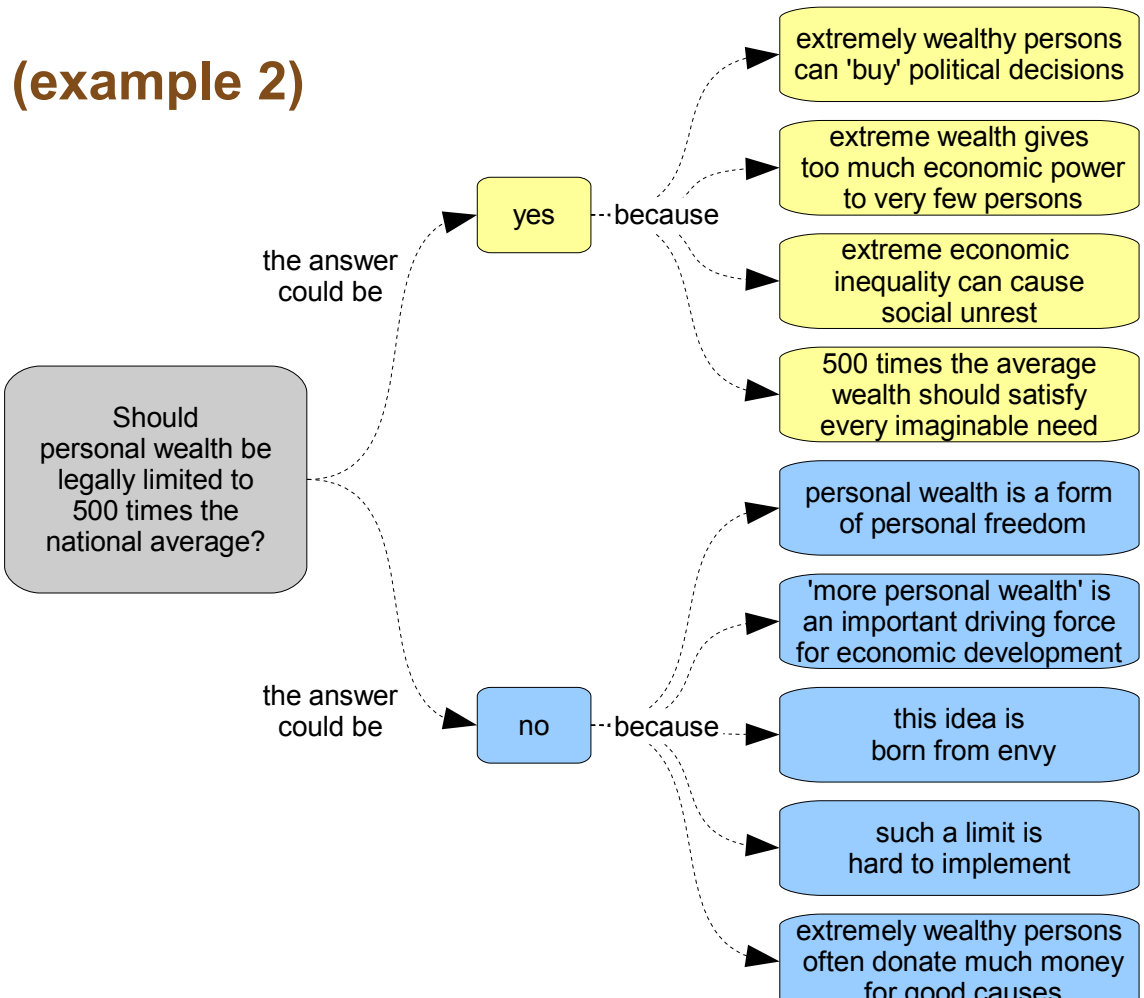
Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important	-	-
not valid	valid + important	-	-
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid	-	-
valid + important	not valid	-	-
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

A second example.

Fig. G.9a : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party

Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important		
not valid	valid + important		
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid		
valid + important	not valid		
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

Generally,
a high percentage of 'not valid' evaluations could indicate a:

- very controversial question

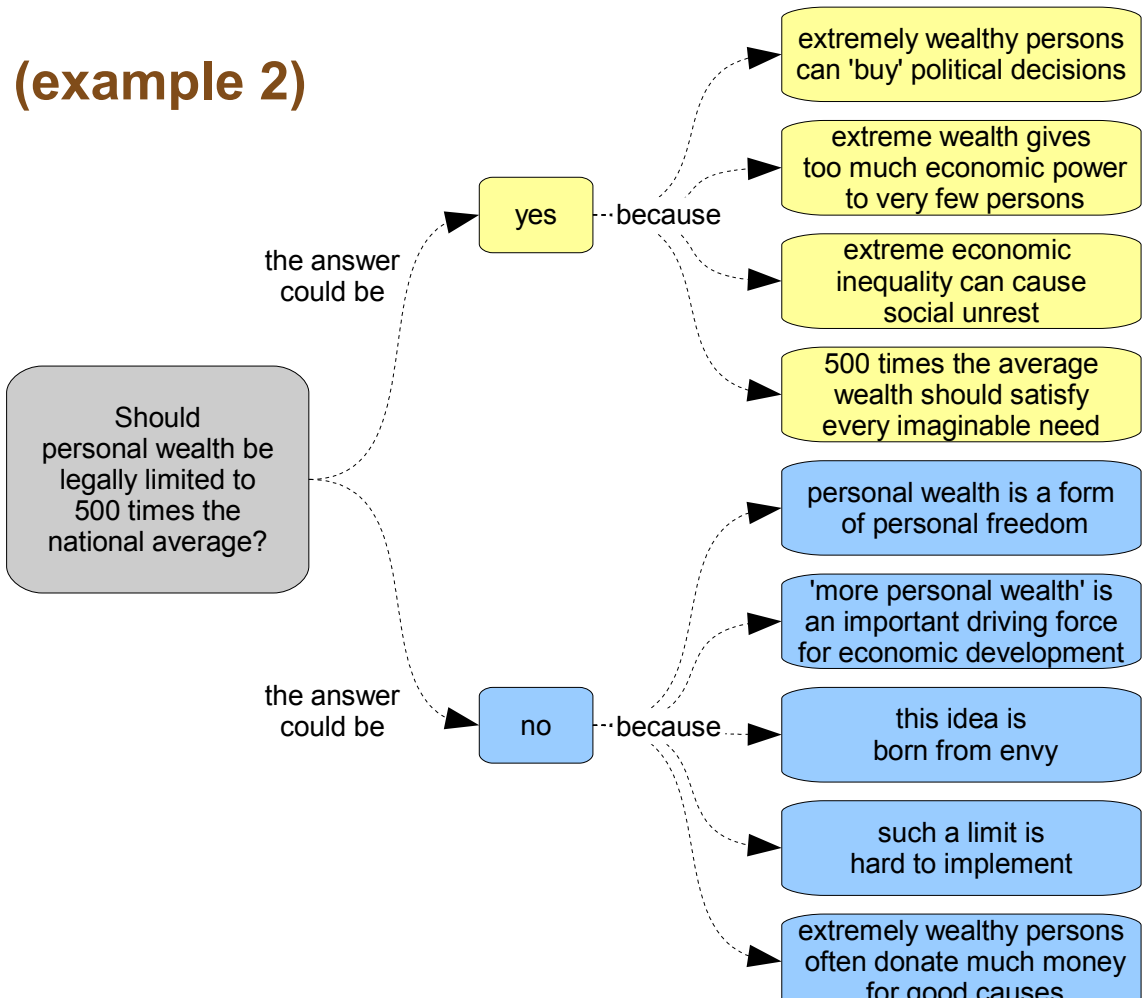
- closed-minded party

- bad argument

Fig. G.9b : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party

Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important		
not valid	valid + important		
not valid	valid + important		
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid		
valid + important	not valid		
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

Note that this diagram partly reveals each party's:

- reality perception (which arguments do they see as true and relevant, hence valid?)

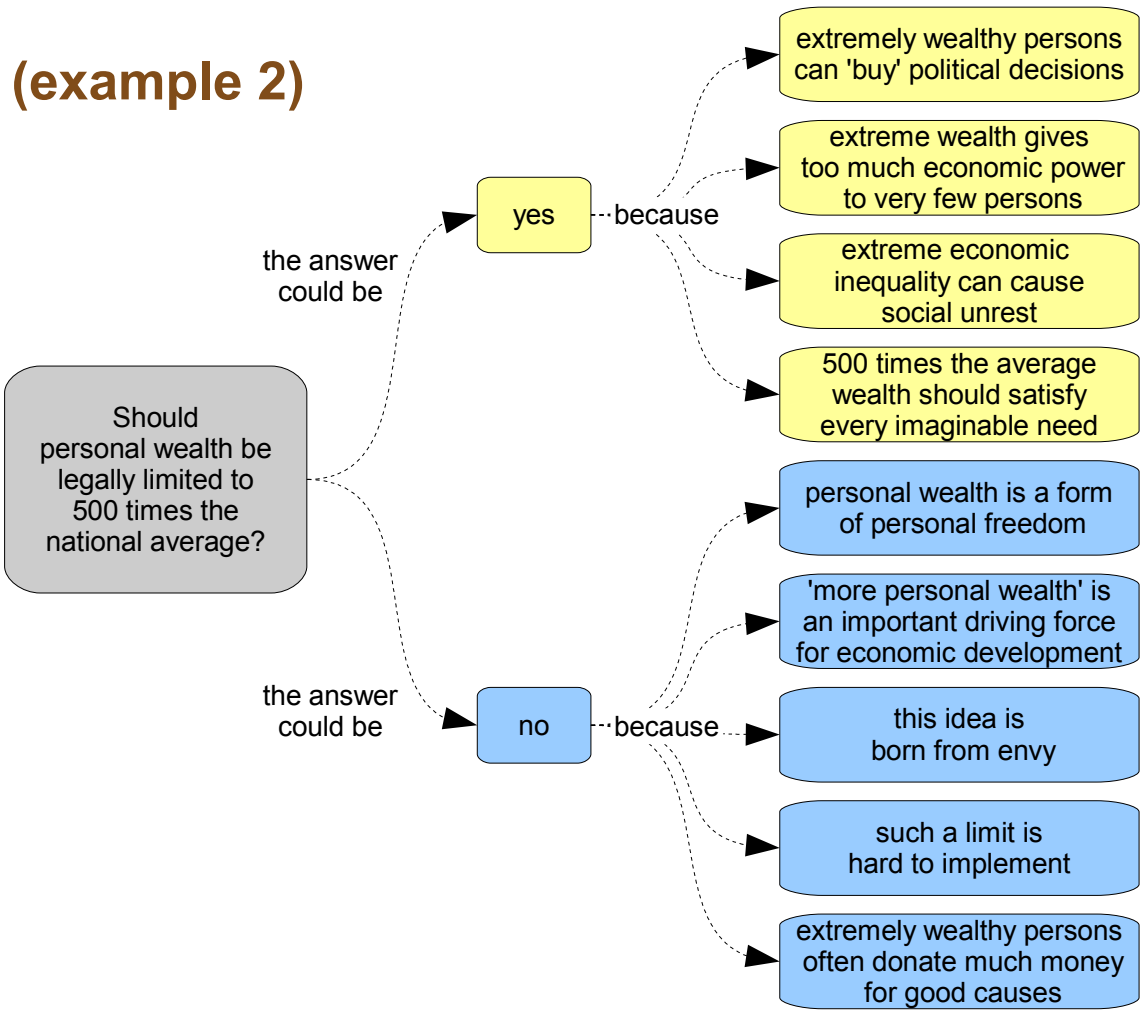
and their

- value system (how important is each argument to them?)

Fig. G.9c : multi-party argument evaluation

Multi-party argument evaluation

(example 2)



Argument evaluations, by party

Billionaire's association	Equal influence movement	Party #3	Party #4
valid	valid + very important	-	-
not valid	valid + important	-	-
not valid	valid + important	-	-
not valid	valid		
valid + very important	valid		
valid + very important	valid + not important		
valid + not important	not valid	-	-
valid + important	not valid	-	-
valid + important	valid + not important	-	-
conclusion: no	conclusion: yes	conclusion: -	conclusion: -

In a political context, this diagram type can serve as transparency tool.

Fig. G.9d : multi-party argument evaluation

Now let's take a step back
from the details and do some
summing up.

Many 'normal' discussions suffer
from empty talk, manipulation
attempts, poor reasoning,
personal insults, hidden agendas
or lack of focus and overview.

Such discussions can
take a long time,
without giving useful results.

If the topic is important
and you can choose,
consider this alternative:

1. make an argument map
2. evaluate the main arguments
3. draw your conclusion(s)

Just for yourself, or
in cooperation with others.

In most cases you will have well-
founded results within 1-3 hours.

This is the last page
of this excerpt.

If you've read it: Thank you.